

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

# PCT

To:

THE APPLICANT'S COMPANY  
Pursuit Dynamics PLC  
Pursuit Dynamics PLC  
Pursuit Dynamics PLC  
Pursuit Dynamics PLC  
Pursuit Dynamics PLC  
Pursuit Dynamics PLC

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT AND  
THE WRITTEN OPINION OF THE INTERNATIONAL  
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing  
(day:month:year)

11/08/2008

Applicant's or agent's file reference

P101097W002

**FOR FURTHER ACTION**

See paragraphs 1 and 4 below

International application No.

PCT/GB2008/050319

International filing date  
(day:month:year)

02/05/2008

Applicant

PURSUIT DYNAMICS PLC

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally two months from the date of transmittal of the International Search Report.

**Where?** Directly to the International Bureau of WIPO, 34 chemin des Colombettes  
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 338.82.70

**For more detailed instructions,** see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

**4. Reminders**

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

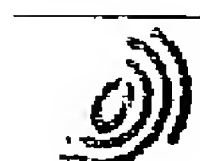
The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
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Authorized officer

Véronique Cornudet

## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the *PCT Applicant's Guide*, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report and the written opinion of the International Searching Authority, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only (see *PCT Applicant's Guide*, Volume I/A, Annexes B1 and B2).

The attention of the applicant is drawn to the fact that amendments to the claims under Article 19 are not allowed where the International Searching Authority has declared, under Article 17(2), that no international search report would be established (see *PCT Applicant's Guide*, Volume I/A, paragraph 296).

#### What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Section 205(b)).

**The amendments must be made in the language in which the international application is to be published.**

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

**The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.**

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P1010977002	<b>FOR FURTHER ACTION</b> see Form PCT ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/GB2008/050319	International filing date (day/month/year) 02/05/2008	(Earliest) Priority Date (day/month/year) 02/05/2007
Applicant  PURSUIT DYNAMICS PLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed  
☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No. III)

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant  
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant  
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 3  
☒ as suggested by the applicant  
☐ as selected by this Authority, because the applicant failed to suggest a figure  
☐ as selected by this Authority, because this figure better characterizes the invention  
 b. ☐ none of the figures is to be published with the abstract

## INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2008/050319

## A. CLASSIFICATION OF SUBJECT MATTER

INV. C13K1/02 D21B1/16 C12P19/14 B01F5/04 B05B7/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

C13K D21B C12P B01F B05B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, EMBASE, BIOSIS

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 201 596 A (BURROUGHS REGINALD L [US] ET AL) 6 May 1980 (1980-05-06)  abstract column 1, line 55 - column 5, line 40 -----	1, 2, 4, 6, 7, 9, 12-18, 20, 23, 24, 26
A	GB 1 028 211 A (ESCHER WYSS GMBH) 4 May 1966 (1966-05-04)  page 1, lines 8-73 pages 3-5; examples 1-3 figures 1-4  -/--	1, 2, 4, 5, 12-14, 16, 19, 20, 22, 24, 25



Further documents are listed in the continuation of Box C.



See patent family annex.

## \* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*Z\* document member of the same patent family

Date of the actual completion of the international search

28 July 2008

Date of mailing of the international search report

11/08/2008

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040. Tx. 31 651 epo nl.  
Fax: (+31-70) 340-3016

Authorized officer

Schröder, Gunnar

## INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2008/050319

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
A	<p>-&amp; GB 995 660 A (ESCHER WYSS GMBH) 23 June 1965 (1965-06-23) page 2, line 9 - page 4, line 94 figures 1-8</p> <p>-----</p> <p>US 2003/147301 A1 (EKHOLM ROLF [SE]) 7 August 2003 (2003-08-07) abstract paragraphs [0001], [0002], [0012], [0015] - [0027]; figure 2</p> <p>-----</p>	1-3, 12

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2008/050319

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4201596	A	06-05-1980	AU 526514 B2	13-01-1983
			AU 5281379 A	17-07-1980
			BR 8000020 A	07-10-1980
			CA 1129355 A1	10-08-1982
			DE 2944789 A1	24-07-1980
			FI 793497 A	13-07-1980
			GB 2041376 A	10-09-1980
			IN 151283 A1	19-03-1983
			JP 1168642 C	30-09-1983
			JP 55092699 A	14-07-1980
			JP 57056880 B	01-12-1982
			NO 793650 A	15-07-1980
			SE 7903001 A	13-07-1980
GB 1028211	A	04-05-1966	CH 399372 A	15-09-1965
			CH 440176 A	15-07-1967
			DE 1567367 A1	02-07-1970
			DE 1172620 B	18-06-1964
			DE 1190890 B	08-04-1965
			DE 1189030 B	11-03-1965
			GB 995660 A	23-06-1965
			NL 283530 A	
			NL 7313559 A	25-01-1974
			US 3219483 A	23-11-1965
			US 3308037 A	07-03-1967
GB 995660	A	23-06-1965	CH 399372 A	15-09-1965
			CH 440176 A	15-07-1967
			DE 1567367 A1	02-07-1970
			DE 1172620 B	18-06-1964
			DE 1190890 B	08-04-1965
			DE 1189030 B	11-03-1965
			GB 1028211 A	04-05-1966
			NL 283530 A	
			NL 7313559 A	25-01-1974
			US 3219483 A	23-11-1965
			US 3308037 A	07-03-1967
US 2003147301	A1	07-08-2003	NONE	



# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

# PCT

see form PCT/ISA 220

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day month year) see form PCT/ISA 210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA 220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No	International filing date (day month year)	Priority date (day month year)
PCT/GB2008/050319	02.05.2008	02.05.2007

International Patent Classification (IPC) or both national classification and IPC  
INV. C13K1/02 D21B1/16 C12P19/14 B01F5/04 B05B7/06

Applicant  
PURSUIT DYNAMICS PLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA 220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA 220.

3. For further details, see notes to Form PCT/ISA 220.

Name and mailing address of the ISA:



European Patent Office - Gitschiner Str. 103  
D-10958 Berlin  
Tel. +49 30 25901 - 0  
Fax +49 30 25901 - 840

Date of completion of  
this opinion

see form  
PCT/ISA 210

Authorized Officer

Schröder, Gunnar

Telephone No. +49 30 25901-326



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Box No. I Basis of the opinion

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1. With regard to the **language**, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed
  - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ on paper
    - ☐ in electronic form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in electronic form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:



WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/GB2008/050319

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Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

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1. Statement

Novelty (N)	Yes: Claims	<u>3,5,8,10,11,19,21,22,25,27</u>
	No: Claims	<u>1,2,4,6,7,9,12-18,20,23,24,26</u>
Inventive step (IS)	Yes: Claims	<u>3,8,11</u>
	No: Claims	<u>1,2,4-7,9,10,12-27</u>
Industrial applicability (IA)	Yes: Claims	<u>1-27</u>
	No: Claims	

2. Citations and explanations

see separate sheet

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Box No. VIII Certain observations on the international application

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

Reference is made to the following documents:

- D1: US-A-4 201 596 (BURROUGHS REGINALD L [US] ET AL) 6 May 1980
- D2: GB-A-1 028 211 (ESCHER WYSS GMBH) 4 May 1966
- D3: GB-A-995 660 (ESCHER WYSS GMBH) 23 June 1965
- D4: US 2003/147301 A1 (EKHOLM ROLF [SE]) 7 August 2003

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 2 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (abstract and column 3, line 23 - column 5, line 40; figure 1; the references in parentheses applying to this document):

A process for the treatment of biomass (cellulosic waste materials), comprising:  
forming a biomass slurry by mixing biomass with a working fluid (water);  
inducing the biomass slurry to flow through an inlet into a passage (injection block 28); and  
injecting a high velocity transport fluid (steam) into the slurry through a conduit communicating with the passage (conduit 70);

Steam injectors for injecting high pressure and/or high speed steam into fluids or pulps are known, see e.g. document D3 (page 2, line 9 - page 4, line 94 and figures 1-8) and document D4 (paragraphs 0015-0019). The use of a nozzle as a conduit for injecting steam is considered to be an implicit feature of the apparatus of document D1. Furthermore, the injection of high pressure steam into the pulp is assumed to result in shear forces, atomisation, formation of low pressure (partial vacuum) and high pressure regions and a condensation shock wave.

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 12 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (abstract and column 1, line 55 - column 5, line 40; figure 1: the references in parentheses applying to this document):

A biomass treatment apparatus, comprising:

a mixing container adapted to mix a supply of biomass and a supply of working fluid to form a biomass slurry (implicit features of the process, wherein it is specified that an *aqueous mixture of cellulosic material* is fed into the reactor, see column 1, lines 55-65 and column 3, lines 22-35);

a pump adapted to pump the slurry from the mixing container (column 3, lines 35-40 and column 4, lines 5-12 and 45-68); and

at least one fluid processor adapted to receive the slurry from the mixing container (injection block 28);

wherein the fluid processor comprises:

a fluid passage having a passage inlet in fluid communication with the mixing container (pipe 26) and a passage outlet (valve 42 and pipe 44); and

a transport fluid nozzle opening into the passage intermediate the inlet and the outlet (conduits 68), the nozzle adapted to inject a high velocity transport fluid into passage (implicit features, see above).

3. Dependent claims 4, 6, 7 and 9 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty.

The subject-matter of claims 4, 6 and 7 is anticipated by D1, in which a mineral acid, preferably sulfuric acid, is injected into the slurry immediately after the point of steam injection (D1, column 3, lines 3-9 and lines 43-49; column 5, lines 10-17; figure 1, acid injection conduits 70).

The subject-matter of claim 9 is anticipated by D1, column 3, lines 9-13.

4. Dependent claims 13-18, 20, 23, 24 and 26 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements

of the PCT in respect of novelty.

The subject-matter of claim 13 is anticipated by D1, column 2, lines 46-51. The back pressure valves of claims 14 and 15 correspond to pressure valves 42 and 46 of D1 (column 5, lines 23-35). The features of claims 16-18 correspond to the acid injection conduits 70 of D1 (see passages cited under point 3), which are adjacent to the site of steam injection. The holding vessel of claim 20 corresponds to collection tank 48 of D1 (column 5, lines 32-35). The progressive cavity pump of claim 23 corresponds to the progressing cavity pump of D1, column 4, lines 5-12. The feature of claim 24 is anticipated by D1, column 1, lines 62-65 and column 3, lines 30-35, where it is specified that the reaction zone is tubular (pipe reactor). The vapour separation mechanism of claim 26 corresponds to the condenser 50 of D1 (column 5, lines 35-37 and figure 1).

5. The features of claims 5, 10, 19, 21, 22, 25 and 27 are slight constructional changes / specifications which come within the scope of the customary practice followed by persons skilled in the art, especially as the advantages thus achieved can readily be foreseen.

The features of claims 5, 19, 21, 22 and 25 are particularly evident from documents D2 and D3 (passages cited in the search report).

### Re Item VIII

#### **Certain observations on the international application**

1. Claim 1 is not supported by the description as required by Article 6 PCT, as its scope is broader than justified by the description. Claim 1 describes a process for the treatment of "biomass", in which a "working fluid" and a "transport fluid" are utilized in an apparatus comprising a "passage". The claimed subject-matter encompasses *any* kind of biomass, *any* kind of fluids and *any* kind of passage, whereas support within the meaning of Article 6 PCT and disclosure within the meaning of Article 5 PCT has been given only for *lignocellulosic* biomass (i.e. *not* for biomass such as manure), *water* as the working fluid and *steam* as the transport fluid, and the passage consists

of a reactor equipped with a steam injector having specific features. It is not obvious what other kinds of biomass, fluids or devices could be suitable for the claimed process. Thus, said claim is not supported and disclosed over its whole breadth.

2. In claim 1 an attempt is made to define the method by reference to a result to be achieved. Article 6 in conjunction with Rule 6.3 (a) requires that all the essential features of the claimed invention have to be indicated in the claim in technical terms. Claims which attempt to define the invention by a result to be achieved should not be allowed, in particular if they only amount to claiming the underlying technical problem. The description (page 8, line 8 - page 9, line 30 and page 13, lines 5-18) conveys the impression that the effects described in claim 1 can only be achieved when a high pressure steam is used at supersonic velocity.
3. Claim 8 is not supported by the description as required by Article 6 PCT, as its scope is broader than justified by the description. According to claim 8, *any* gas can be used as first and/or second catalyst, whereas it is not obvious which gas other than CO<sub>2</sub> or air (description, page 12, lines 9-11) is suitable.
4. The application does not meet the requirements of Article 6 PCT, because claims 10 and 11 are not clear.  
Since it is not specified at which step in the overall process the additional fermentation step is to be carried out, it is theoretically left open the possibility of introducing the microorganisms together with the first catalyst (acid) during the initial treatment of raw biomass. However, the description teaches otherwise (page 14, lines 4-7), and it seems impossible that alcohol can be recovered in this first step already.
5. The features of the apparatus claims 12-27 are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

## Possible steps after receipt of the international search report (ISR) and written opinion of the International Searching Authority (WO-ISA)

General information	For all international applications filed on or after 01/01/2004 the competent ISA will establish an ISR. It is accompanied by the WO-ISA. Unlike the former written opinion of the IPEA (Rule 66.2 PCT), the WO-ISA is not meant to be responded to, but to be taken into consideration for further procedural steps. This document explains about the possibilities.
Amending claims under Art. 19 PCT	Within 2 months after the date of mailing of the ISR and the WO-ISA the applicant may file amended claims under Art. 19 PCT directly with the International Bureau of WIPO. The PCT reform of 2004 did not change this procedure. For further information please see Rule 46 PCT as well as form PCT/ISA/220 and the corresponding Notes to form PCT/ISA/220.
Filing a demand for international preliminary examination	<p>In principle, the WO-ISA will be considered as the written opinion of the IPEA. This should, in many cases, make it unnecessary to file a demand for international preliminary examination. If the applicant nevertheless wishes to file a demand this must be done before expiry of 3 months after the date of mailing of the ISR/ WO-ISA or 22 months after priority date, whichever expires later (Rule 54bis PCT). Amendments under Art. 34 PCT can be filed with the IPEA as before, normally at the same time as filing the demand (Rule 66.1 (b) PCT).</p> <p>If a demand for international preliminary examination is filed and no comments/amendments have been received the WO-ISA will be transformed by the IPEA into an IPRP (International Preliminary Report on Patentability) which would merely reflect the content of the WO-ISA. The demand can still be withdrawn (Art. 37 PCT).</p>
Filing informal comments	After receipt of the ISR/WO-ISA the applicant may file informal comments on the WO-ISA directly with the International Bureau of WIPO. These will be communicated to the designated Offices together with the IPRP (International Preliminary Report on Patentability) at 30 months from the priority date. Please also refer to the next box.
End of the international phase	At the end of the international phase the International Bureau of WIPO will transform the WO-ISA or, if a demand was filed, the written opinion of the IPEA into the IPRP, which will then be transmitted together with possible informal comments to the designated Offices. The IPRP replaces the former IPER (international preliminary examination report).
Relevant PCT Rules and more information	Rule 43 PCT, Rule 43bis PCT, Rule 44 PCT, Rule 44bis PCT, PCT Newsletter 12/2003, OJ 11/2003, OJ 12/2003